September 25, 1998

MEMORANDUM

TO: Orville D. Green, Assistant Administrator
Air & Hazardous Waste

FROM: Susan J. Richards, Chief
Air Quality Permitting Bureau

SUBJECT: Issuance of Modification to Tier II Operating Permit #027-00060 to Woodgrain Millwork, Incorporated (Nampa)

PROJECT DESCRIPTION

This project is for the issuance of a modified Tier II Operating Permit (OP) for the Woodgrain Millwork, Inc., facility located at Nampa, Idaho. The permit is being issued in order to establish the facility as a synthetic minor source. The emission point sources are six (6) cyclones, three (3) baghouses, three (3) dryers, and twelve (12) space heaters. Fugitive sources include wood treating, gluing, and synthetic patching operations; and haul roads, loadout operations, and target boxes.

DISCUSSION

DEQ received a modification request from Woodgrain Millwork, Inc., on December 5, 1997. On March 5, 1998, DEQ determined the request incomplete due to the need of additional information to process the permit. The application was declared complete on September 11, 1998.

FEES

Fees apply to this facility in accordance with IDAPA 16.01.01.470. The facility is subject to permit application fees for this revised Tier II OP of $500. The facility has been notified in writing of the required application fees. The permit will be issued upon receipt of the fees.

RECOMMENDATIONS

Based on the review of the application for a modified Tier II OP and applicable state rules and federal regulations concerning the permitting of air pollution sources, the Bureau recommends that Woodgrain Millwork, Inc., Nampa, Idaho, be issued a modified Tier II OP for the sources that exist at the facility. Because emission limits have been lowered, no public comment period is deemed necessary for this modified permit. The facility has been notified in writing of the required Tier II application fees of five hundred dollars ($500.00). The permit will be issued upon receipt of the fees.

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cc: S. West, Boise Regional Office
Source File
COF

September 25, 1998

MEMORANDUM

TO: Susan Richards, Chief
Air Quality Permitting Bureau
Air & Hazardous Waste

FROM: Tom Lundahl, Air Quality Engineer TL
Air Quality Permitting Bureau
Operating Permits

THROUGH: Dan Salgado, Operating Permits Manager
Air Quality Permitting Bureau
Operating Permits

SUBJECT: Technical Analysis for Revised Tier II Operating Permit #027-00060
Woodgrain Millwork, Incorporated; Nampa, Idaho

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 16.01.01., Sections 400 through 406 Rules for the Control of Air Pollution in Idaho (Rules) for issuing Operating Permits.

FACILITY DESCRIPTION

Process Description

Woodgrain Millwork, Incorporated, (Woodgrain) Nampa, Idaho, is a manufacturing site that produces interior and exterior panel doors. Panel doors are produced using wood substrates, water based glue, and solvent based wood treater. Wood cutting, trimming, sanding, and shaping processes generate wood waste particulate matter (PM). Cyclones and/or baghouses are used to control PM emissions. Volatile organic compounds (VOC) are produced from veneer drying, water based glue emulsion, and solvent based wood treater. All VOC emissions from the facility are uncontrolled. The facility has three (3) natural gas fired dryers and twelve (12) natural gas fired space heaters. There are six (6) buildings at the facility. The facility offices are located in Building #6. The process/equipment are located in five (5) main buildings which include the following operations:

1. Building #1: Louver door fabrication line.
2. Building #2: Glaze door fabrication line, wood block conditioning and veneer drying.
3. Building #3: Colonial door fabrication line and the stile molder line.
4. Building #4: Bifold door line and shipping and receiving operations.
5. Building #5: Stile line, veneer drying, and maintenance operations.

All process/equipment buildings include gluing operations, reclaim operations, limited chemical storage, and space heating.

Control Description

(1) Six (6) cyclones of different sizes and shapes;
(2) Two (2) baghouses which discharge into Building #3;
(3) One (1) baghouse which discharges into atmosphere; and
(4) Several target boxes.

PROJECT DESCRIPTION

This project is for a revised Tier II Operating Permit (OP) for the following existing point and fugitive emission sources. The location of the plant is as follows:

Latitude:	43°36'16"
Longitude:	116°35'34"

Point Sources

(1) System 7 Cyclone Stack: Emissions from Building #1 - Louver Doors.

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	16,240
Stack Exit Temperature (°F):	Ambient

(2) System 4 Cyclone Stack: Emissions from Building #2 - Glaze Line.

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	11,950
Stack Exit Temperature (°F):	Ambient

(3) System 6 Cyclone Stack: Emissions from Building #4 - Bifold Door Assembly.

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	16,240
Stack Exit Temperature (°F):	Ambient

(4) System 3 Cyclone Stack: Emissions from Building #3 - Colonial Doors.

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	48,250
Stack Exit Temperature (°F):	Ambient

(5) System 2 Cyclone Stack: Emissions from Building #5 - Hog (Chipping Device).

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	18,500
Stack Exit Temperature (°F):	Ambient

(6) System 1 Baghouse Stack: Emissions from Byproduct Loadout Station.

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	3,600
Stack Exit Temperature (°F):	Ambient

(7) System 9 Cyclone Stack: Emissions from Building #5 - Raw Goods Inventory Warehouse.

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	8,700
Stack Exit Temperature (°F):	Ambient

(8) System 5 Baghouse Stack: Emissions from Building #3 (Primary) and Buildings #1, #2, #4, and #5 (Secondary).

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	25,133
Stack Exit Temperature (°F):	Ambient

(9) System 8 Baghouse Stack: Emissions from Building #3 (Primary) and Buildings #1, #2, #4, and #5 (Secondary).

The stack data are the following:

Stack Exit Height (ft):	30.0
Stack Exit Diameter (ft):	5.0
Stack Exit Flowrate (ACFM):	33,929
Stack Exit Temperature (°F):	Ambient

(10) Natural Gas Fuel Burning Equipment (three (3) dryers and twelve (12) space heaters).

(11) Veneer drying operation.

(12) Wood treating, gluing, and synthetic patching operations.

Fugitive Sources

(1) Haul Roads,
(2) Loadout Operations, and
(3) Target Boxes.

A more detailed process description can be found in the OP application materials dated February 23, 1996.

SUMMARY OF EVENTS

On December 29, 1995, DEQ received a Tier II OP application from Woodgrain Millwork, Nampa, Idaho. On January 25, 1996, the application was declared incomplete. A modified application addressing the incompleteness of IDEQ's letter was received on February 23, 1996. The application was declared complete on March 25, 1996. Additional information was forwarded to DEQ on March 25, 1996, April 4, 1996, April 16, 1996, May 13, 1996, May 15, 1996, and September 17, 1996. The public comment period was from November 13, 1996 through December 13, 1996. No comments were received, and the Tier II OP (#027-00060) was issued on December 27, 1996.

On July 28, 1997, Woodgrain requested a modification to their Tier II OP to include updated emission factors approved by IDEQ in June, 1997. These updated emission factors would allow Woodgrain to operate 8760 hours per year and still have a reduction in emissions. On September 4, 1997, Woodgrain requested an additional modification to their operating permit to lower the total static pressure requirement on the System 9 Cyclone from sixteen (16) inches of water to twelve (12) inches of water. On December 4, 1997, Woodgrain requested that the standard for total static pressure across System 2 Cyclone also be changed from eleven (11) inches of water to nine (9) inches of water. Faulty initial total static pressure readings were given as the reason for the needed changes. System 1 Cyclone was replaced by a Sabourin high efficiency baghouse (System 1 Baghouse) in April 1998.

DISCUSSION

1. Emission Estimates

Emission estimates using the updated emission factors were provided by Woodgrain. IDEQ also estimated the emissions from all the sources of the facility using the updated emission factors and the new baghouse (see Attachment A). The hourly emissions calculations were based on the maximum production rate of each equipment/ process, and not the maximum rated capacity of that equipment/process. The maximum production rate of any equipment/process is limited to the production rates of the preceding and/or the following equipment/process. The annual emissions calculations were based on 8760 hours per year or material consumption as presented in Attachment A.

Emissions from equipments/processes were estimated using emissions factors furnished by AP-42, 5th edition and the Idaho Emission Factor Guide for Wood Industry.

The major emissions from the facility are PM. The total allowable emissions are presented below:

PM	83.2 tons per year

2. Modeling

No modeling for impact analysis for the various emissions from the facility's point sources was performed.

3. Area Classification

Woodgrain Millwork, Nampa, Canyon County, Idaho, is located in AQCR 64. The area is classified as attainment or unclassifiable for all federal and state criteria air pollutants (i.e., PM, PM-10, CO, NO_x, O_3, VOCs, and SO_x).

4. Facility Classification

The facility is not a designated facility as defined in IDAPA 16.01.01.006.25. The facility is classified as an A2 source because the actual emissions of any criteria pollutant is less than 100 tons per year.

5. Regulatory Review

This OP is subject to the following permitting requirements:

a.	IDAPA 16.01.01.401	Tier II Operating Permit
b.	IDAPA 16.01.01.403	Permit Requirements for Tier II Sources
c.	IDAPA 16.01.01.404.01(c)	Opportunity for Public Comment
d.	IDAPA 16.01.01.404.04	Authority to Revise or Renew Operating Permits
e.	IDAPA 16.01.01.406	Obligation to Comply
f.	IDAPA 16.01.01.470	Permit Application Fees for Tier II Permits
g.	IDAPA 16.01.01.625	Visible Emission Limitation
h.	IDAPA 16.01.01.650	General Rules for the Control of Fugitive Dust

VOC emissions are generated from materials used at the facility which contain Hazardous Air Pollutants (HAPs). HAP emissions from these materials are not significant (less than 1 ton per year). Therefore, the Woodgrain Millwork, Nampa, operations are not subject to Section 585 or 586 of the Rules.

FEES

Fees apply to this facility in accordance with IDAPA 16.01.01.470. The facility is subject to permit application fees for this revised Tier II OP of five hundred dollars ($500.00). IDAPA 16.01.01.470 became effective on March 7, 1995.

RECOMMENDATIONS

Based on the review of the application for a revised Tier II OP and applicable state rules and federal regulations concerning the permitting of air pollution sources, the Bureau recommends that Woodgrain Millwork, Inc., Nampa, Idaho, be issued a revised Tier II OP for the sources that are described in this technical memorandum. Because emission limits have been lowered, no public comment period is deemed necessary for this revised permit. The facility has been notified in writing of the required Tier II application fees of five hundred dollars ($500.00). The permit will be issued upon receipt of the fees.

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Attachment

cc: S. West, Boise Regional Office
T. Krinke, Boise Regional Office
Source File
COF

ATTACHMENT A

ATTACHMENT A

Woodgrain Millwork, Incorporated; Nampa Facility
Tier II Operating Permit Technical Memorandum

PM Emissions														
Source	Flow Rate	Max. Rate	Act. Rate	E. Factor	Reference	Op. Time	PM Rate	PM Rate	PM-10	PM-10	Control	Efficiency	Location	Material Handled
	acfm	pph	pph	gr/scf	ID DEQ	hr/yr	pph	tpy	pph	tpy	Equip.	%		& Source Description
System 7 Cyclone	16240	83	78	0.015	U of I Att. A	8760	2.088	9.145	2.088	9.145		97.484	Bldg 1	Saw dust. Louver door fabrication line
System 4 Cyclone	11950	46	41	0.015	U of I Att. A	8760	1.536	6.730	1.536	6.730		96.660	Bldg 2	Saw dust. Glaze door fab., wood block cond.,
System 6 Cyclone	16240	67	61	0.015	U of I Att. A	8760	2.088	9.145	2.088	9.145		96.884	Bldg 3	Saw dust. Colonial door fabrication
System 3 Cyclone	48250	287	261	0.015	U of I Att. A	8760	6.204	27.172	6.204	27.172		97.838	Bldg 3	Saw dust. Colonial door fabrication
System 2 Cyclone	18500	99	90	0.025	U of I Att. A	8760	3.964	17.364	3.964	17.364		95.996	Bldg 5	Saw dust. Stile door fabrication
System 1 Baghouse	3800	7.5	6.8	0.0001	U of I Att. A	8760	0.003	0.014	0.003	0.014		99.959	Yard	Chip bin,
System 9 Cyclone	8700	84	77	0.025	U of I Att. A	8760	1.864	8.166	1.864	8.166		97.781	Yard	Chip bin, not operable at this time
		673.5					17.748	77.735	17.748	77.735				
												Bldg. Eff.		
System 5 Baghouse	25133	180	164	0.0001	U of I Att. A	8760	0.006	0.028	0.006	0.028	BH #1	70	Bldg 3	Sander dust. Vents into the plant
System 8 Baghouse	33929	243	221	0.0001	U of I Att. A	8760	0.009	0.038	0.009	0.038	BH #2	70	Bldg 3	Sander dust. Vents into the plant
							0.015	0.067	0.015	0.067				
Source	Flow Rate	Max. Rate	Act. Rate	E. Factor	Reference	Op. Time	E. Rate	E. Rate	PM-10	PM-10	Control		Location	Material Handled
	acfm	pph	pph	lb/ton	4th ed.	hr/yr	pph	tpy	pph	tpy	Equip.			& Source Description
Loadout (2 Stations)		1200	1000	2	T 10.4-2	8760	1.200	5.256	1.200	5.256	none		Yard	Chip bin, saw dust and shavings
Target Boxes (many)		6	6	1	T 10.4-2	8760	0.003	0.013	0.003	0.013	none		All over	Wood dust
							1.203	5.269	1.203	5.269				
Operating Time	8760	hr/yr												
VOC Emissions														
Source	Max Rate	Act. Rate	Act. Rate	E. Factor	Reference	Max. Em.	Max. Em.	Act. Em.	PM-10	PM-10	Control		Location	Material Handled
	10^6ft2/hr	10^6ft2/yr	10^6ft2/yr	lb/10^6ft2	4th ed.	pph	tpy	tpy	pph	tpy	Equip.			& Source Description
Veneer Drying, Condensible	0.06	0.04	333	8	T 10.3-2	0.480	2.102	1.332	0.480	2.102	None		Bldg 2&5	
Veneer Drying, Volatile	0.06	0.04	333	3	T 10.3-2	0.180	0.788	0.500	—	—	None		Bldg 2&5	
Factor requested, 4/4/96	0.6													
Source	Max Rate	Act. Rate	Act. Rate	Density	% volatile	Max. Em.	Max. Em.	Act. Em.					Location	Material Handled
	gal/hr	gal/hr	gal/yr	lb/gal	MSDS	pph	tpy	tpy						& Source Description
Wood Treat Process	0.76	0.66	6000										Yard	
"solvent based"														
Kopcoat	0.15	0.14	1200	7	95	1.005	4.404	3.990						
Mineral Spirits	0.60	0.55	4800	6.5	100	3.931	17.219	15.600						
Factor requested, 3/25/96	1.3241676													
Emulsion Gluing Op.	13.24	11.44	100000										Facility	
"water based"													Wide	
Water based glue	10.61	9.16	80089.52	6.2680	7	4.653	20.381	17.570						
Similar W. b. glue	0.54	0.47	4083.79	6.2687	7	0.237	1.039	0.896						
W. Based catalyst	2.10	1.81	15826.69	6.2679	7	0.920	4.027	3.472						
Syn. path B operation	0.08	0.07	600	8.3	7	0.046	0.204	0.174					Bldg #5	
"water based"														
						10.973	48.082	42.202						
Emissions from Fuel Burning Equipment														
Source	Capacity	N.G. Heat	Emission Factors (lb/10^6ft3)						Reference					
	MMbtu/hr	btu/ft3	PM	PM-10	SO2	NOx	CO	VOC	Ap-42					
facility wide	0.3 - 10	913	12	12	0.6	100	21	5.28	T 1.4-1,...					
Source	Capacity	Hourly emission rate (lb/hr)						Annual emission rate (tons/yr)						
	MMbtu/hr	PM	PM-10	SO2	NOx	CO	VOC	PM	PM-10	SO2	NOx	CO	VOC	
Veneer conditioning	1	0.013	0.013	0.001	0.110	0.023	0.006	0.058	0.058	0.003	0.480	0.101	0.025	
Continuous veneer dryer	1	0.013	0.013	0.001	0.110	0.023	0.006	0.058	0.058	0.003	0.480	0.101	0.025	
Conditioning veneer dryer	1	0.013	0.013	0.001	0.110	0.023	0.006	0.058	0.058	0.003	0.480	0.101	0.025	
Total		0.039	0.039	0.002	0.329	0.069	0.017	0.173	0.173	0.009	1.439	0.302	0.076	
Space heaters	2	0.026	0.026	0.001	0.219	0.046	0.012	0.115	0.115	0.006	0.959	0.201	0.051	
Total		0.066	0.066	0.003	0.548	0.115	0.029	0.288	0.288	0.014	2.399	0.504	0.127	

TOTAL EMISSIONS		
pollutant	pph	tpy
PM	19.002	83.230
VOC	11.002	48.189
SO2	0.003	0.014
NOx	0.548	2.399
CO	0.115	0.504